

REMARKS

This application includes claims 1-4. With this paper, claims 1 is amended and claims 2 and 4 are cancelled. The application now includes 2 claims.

Claim Rejections under 35 USC §102

At page 2 of the Office action, claim 4 is rejected under 35 USC §102(b) as being anticipated by Sanefuji *et al* (U.S. Patent Application Publication No. 2002/0001700 A1).

With this paper, claim 4 is canceled.

Claim Rejections under 35 USC §103

At page 3 of the Office action, claims 1-3 are rejected under 35 USC §103(a) as being unpatentable over Suzuki (U.S. Patent No. 5,762,289) in view of TEIJIN LIMITED (EP 1162227 A1).

Claims 1 and 2 recite a roll of a polyvinyl alcohol (PVA) film obtained by winding up the polyvinyl alcohol film (PVA) around a cylindrical core tube after forming the film from a solution of a polyvinyl alcohol resin. The cylindrical core tube is made of a metallic material and has a surface roughness of at most 100 S, a roundness of 0.01 to 1 mm and a cylindricity of 0.01 to 1 mm. Claim 3 further states that the cylindrical core tube has an outer diameter of 75 to 210 mm and a length of 0.5 to 4.0 m.

In rejecting claims 1-3, the Examiner states that Suzuki teaches a cylindrical core tube for winding plastic films such as PET or PVA wherein the core is formed of a fiber reinforced plastic or metal. The Examiner asserts that, Suzuki suggests a roll of a PVA film obtained by winding up the PVA film around a cylindrical core tube, even though "it is not clear how the manner in which the film (of the present invention) is structurally different from the film of Suzuki." (Page 3, third paragraph of the Office action)

The Examiner further cites TEIJIN LIMITED for disclosing a roll of polyester obtained by winding up polyester film such as PET around a cylindrical core which may be of fiber reinforced plastic, and the surface roughness (Ra) of the core being less than $0.6\mu\text{m}$. Therefore, the Examiner concludes that, "it would have been obvious to one of ordinary skill to provide the metallic core of Suzuki with a surface roughness (Ra) not exceeding $0.6\mu\text{m}$, in the interest of preventing the core surface roughness from being imparted to the film, as suggested by TEIJIN."

Applicant respectfully submits that, based on the following reasons, claims 1-3 are not obvious in view of the cited references.

First, Suzuki teaches a core for winding a plastic film. The plastic films are laminated with a light-selective membrane, a transparent conductive membrane or the like (col.1, lines 10-11). The plastic film is to be heat-treated after winding up on the core. The purpose of the heat treatment is in the improvement in dimensional stability upon heating, the adjustment of strength, elongation, contraction, drying, polymerization or curing of a surface layer coated on a surface of the film (col. 1, lines 14-18). In contrast, in the present invention, a roll of polyvinyl alcohol (PVA) film is obtained by winding up the polyvinyl alcohol (PVA) film around a cylindrical core tube after forming the film from a solution of a polyvinyl alcohol resin. The film is not laminated with a light-selective membrane, a transparent conductive membrane or the like. Furthermore, at forming the film and after winding up the film, no heat treatment is involved. Therefore, the film of the present invention is structurally different from the film of Suzuki.

Second, although PVA is mentioned in the cited location of Suzuki (col. 3, lines 20-25), no particular example is set forth. Contrary to the Examiner's belief, an equivalence of PVA and PET as wound films is never established by Suzuki. In fact, PET film is a hydrophobic resin film that is not generally affected by moisture. It contains a lubricant that makes it relatively easy to wind around a core. PVA film, on the other hand, is a hydrophilic resin film, easily affected by moisture and absorbing the moisture. PVA film is hard to wind around a core and the film is easy to be affected by the surface roughness of the core. Therefore, from the viewpoint of the winding property, PVA film and PET film are not equivalent.

TEIJIN LIMITED only teaches winding a PET film. The technique as taught by TEIJIN LIMITED can not be readily applied to winding a PVA film because the different winding properties of PVA and PET. Even if the teaching of TEIJIN LIMITED were combined with that of Suzuki for winding a PVA film of Suzuki, it would not achieve the present invention because the resulting PVA film is structurally different from the PVA film of the present invention.

Third, Suzuki teaches a core comprising a cylindrical member and annular collars having a height of 1 to 10 times the thickness of the film at the outer periphery of both end portions of the cylindrical member. The film is wound around the core so that the both edges of the film reside on the annular collars (column 3, lines 42-51 and Fig. 1). Suzuki teaches that, the use of a mere cylinder as a core has problems such as cut end mark caused by sharp increase of face pressure, deterioration of film surface conditions, core slip, etc., in the heat treatment of a bulk roll (col. 1, lines 29-33). A core shape as disclosed by Suzuki is used to solve these problems. Therefore, Suzuki teaches away from using a mere cylindrical tube as a core.

Finally, with regard to roundness and cylindricity, the Examiner states that TEIJIN LIMITED suggests a maximum difference between the core maximum and minimum diameters of no more than 0.2 mm (para. [0021]). In fact, TEIJIN LIMITED discloses that the difference between the maximum value and the minimum value of the diameters of a core measured in the width direction of the core is preferably not more than 0.3 mm, more preferably not more than 0.2 mm. It appears that such a difference taught by TEIJIN corresponds to cylindricity, not roundness. TEIJIN does not disclose a roundness that denotes a difference between the maximum and minimum outer diameters measured at a random section of a core (page 7, lines 6-11 of the instant specification).

In light of the above, it is believed that claims 1 and 2 are not obvious in view of the cited references.

In order to distinctively claim the invention, claim 1 is amended to include limitations of claim 2 and, accordingly, claim 2 is canceled.

Claim 3 depends on claim 1. Since claim 1 is believed to be allowable for the above reasons, claim 3 is believed to be allowable as well.

Applicant respectfully requests that the rejection of claim 1 and 3 under 35 USC §103(a) be reconsidered and withdrawn.

Conclusion

For all the foregoing reasons it is believed that all remaining claims of the application are in condition for allowance, and their passage to issue is earnestly solicited. Applicant's attorney urges the Examiner to call to discuss the present response if anything in the present response is unclear or unpersuasive.

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